

Science and the Restoration of Culture

Wolfgang Smith

MY FIRST POINT is scarcely controversial: From the eighteenth century onwards, I maintain, science has been the major determinant of culture in the West. The influence may be direct or mediated, and the response affirmative or oppositional, but the fact remains that in every cultural domain science has played a pivotal role as the prime agent of change. Take philosophy or theology, social or political norms, art, morals or religious practice: the story is the same. Like it or not, science is the decisive factor—the great new revelation—to which society at large has for long been reacting in multiple ways. Even as technology, the offspring and partner of science, has radically transformed the outer life of Western civilization, science itself is having its impact upon our inner life: upon our basic beliefs, values and aspirations. Not everyone, of course, has become an outright materialist; but all, I submit, have been profoundly affected nonetheless.

From its inception the new science has prospered visibly, and commended itself within ever widening circles as the

great liberator from ignorance and superstition. The age of Enlightenment was upon us, and in a very real sense, still is. Was not Bertrand Russell speaking for the modern world as such when he declared: "What science cannot tell us, mankind cannot know"? An exclusive faith in science appears indeed to be the hallmark of modernity.

That faith itself, however, has begun to falter as we have entered the era of postmodernism. It is not simply a matter of one world view triumphing over another, as has happened in the past. The shift to postmodernism is far more radical than that; for it denies the validity, not just of an antecedent world view, but of world views in general. Truth has been reduced in effect to a social convention, the local construct of a society. Partly in reaction, no doubt, to the tyranny of the scientific *Weltanschauung*, one has set about to relativize *all* world views. What confronts us here is not simply a philosophic trend, but a cultural phenomenon: a cultural revolution, one can say. Think of the wholesale rejection of traditional norms, the pervasive distrust of authority, the radical disorientation which seems especially to afflict the youth of our day. There are of course notable exceptions and indeed counter-trends; but these do not offset the nihilistic tendencies in question. One has reason to

WOLFGANG SMITH received his Ph.D. in Mathematics from Columbia University in 1957 and has subsequently held faculty positions at MIT, UCLA, and Oregon State University. An avowed critic of contemporary scientific beliefs, he has written extensively in support of an inherently Platonistic and Christian world view.

believe, moreover, that there is a real connection between postmodernist philosophy—esoteric though it may be—and corresponding cultural trends, even if it may not be possible to construe that connection as a simple case of cause and effect. One can therefore speak of postmodernism in a broad sense, which includes its cultural manifestations.

What I wish now to point out is that postmodernism is not simply an oppositional reaction to the antecedent modernism, but is in fact implicit in modernity, that is to say, in the scientistic world view itself. The universe as depicted by modern science is clearly unacceptable as a human habitat. The scientistic *Weltanschauung* is bearable, thus, precisely because no one believes it—I mean, fully, with all one's being. We believe in the scientistic universe with a part of our mind, persuaded that the contention has been validated by rigorous scientific means; and yet we still suppose, in our daily lives, that the grass is green and the sky blue (which scientism denies)—not to speak of the fact that we take a man or a woman to be more after all than a “chemical machine.” We have learned to compartmentalize our beliefs: to pass in a trice from one *Weltanschauung* to another, incompatible with the first, and think nothing of it. This way of managing beliefs needs of course to be learned; it is what modern education has done for us. The art is acquired in schools and universities. The practice, to be sure, is astonishing, if only one stops to think of it; but we generally don't. We have learned the art so well that we are hardly conscious of doing anything at all. As is the case in schizophrenia, we are unaware of our own inconsistency. Until of course we engage in authentic philosophical reflection; but even then we rarely perceive the magnitude of the dilemma. It takes a Kierkegaard or a Nietzsche, apparently, to become profoundly disturbed. For most of us the anguish is potential rather

than actual, it seems.

It appears from these sparse indications that postmodernism is latent in the scientific mentality. To oscillate between two contradictory world views is to commit to neither: to commit to nothing at all. As a chronic condition the practice is tantamount to a denial of truth.

Given that the scientistic world view is humanly untenable, it behooves us to ask whether the *Weltanschauung* in question is essential to science as such. As one knows, modern science began as an amalgam of Cartesian metaphysics and Baconian empiricism, the incongruity of which was spotted soon enough by leading philosophers. The union, it turns out, is not a true synthesis, and what matters, in fact, is not the Cartesian ontology, nor its epistemology, but precisely the Baconian method. It is Bacon's *novum organum*, his “new machine for the mind,” that enables the enterprise of modern science, a science in which “human knowledge and human power meet in one” as Bacon had foretold. To be sure, the Cartesian conception of *res extensa* (of “bare matter”) has played a vital role in the motivation and guidance of scientific inquiry. As a Kuhnian paradigm, however, the notion of a clockwork universe is expendable; it is not an essential of science, but only a transitional aid. What ultimately counts is the methodology, the Baconian character of the enterprise.

The primary reductionism of science is thus methodological; it applies, not to reality as such, but to the means by which we propose to grasp and harness reality. Directed as it is to the objective of control, the Baconian enterprise is inherently designed to count, measure, and quantify; nothing in fact fulfills the Baconian guidelines more perfectly than a mathematical physics. This methodological reductionism, however, does not presuppose, nor entail, an ontology; it is metaphysically neutral, one can say. But

whereas science does not *de jure* authorize a reductionism of the ontologic kind, it does so *de facto*; in a word, science begets scientism.

The primary scientific dogma is none other than the Cartesian metaphysics, masquerading as a scientific truth. It is this hypothesis that disenfranchises human perception by subjectivizing the perceived object; the world as we perceive it is thereby demoted to a phantasm, a kind of waking dream, while the external universe, denuded of its so-called secondary qualities, is equated to the intentional object of physics: it becomes henceforth the physical universe of modern science. It was Alfred North Whitehead, let us recall, who long ago pointed out the fallaciousness of this scientific dogma. "Bifurcation," he called it, inasmuch as the perceived object would be split in two: "one is the conjecture," he commented, "and the other is the dream." But what has actually been split in two, it appears, is the modern mind itself. As Gilbert Durand has put it: "Dualism is the great 'schizomorphic' structure of Western intelligence."

To be precise: Bifurcation proves to be the basic scientific dogma, the plank that supports the entire edifice of scientific belief.¹ Take Darwinism (to cite but the single most important example): In response to those who still think of Darwinism as a well-substantiated scientific theory, I will refer to the growing scientific literature which proves that it is not.² The point I wish to make is that Darwinist doctrine has from the start derived its real support from two unacknowledged considerations; if it were not for this undeclared backing, I contend, the theory would have been abandoned long ago, and might never have been taken seriously to begin with. The first consideration is this: Given bifurcation—plus the associated idea that the universe consists of atoms or fundamental particles moving to no purpose, whether

by chance or in accordance with deterministic laws—given this reductionist scenario, I say, there is in essence no other way of conceiving biogenesis and speciation. And this, I surmise, is the principal reason why scientists continue to cling to some form of Darwinism, despite its astronomical improbability. The second consideration is simpler still: The alternative to Darwinism appears to entail the notion of a supernatural power, an agent superior to man—and nothing, it seems, is more abhorrent in a secular-humanistic age.

One sees that assumptions of a philosophic nature, as well as ideological commitments, do affect the scientific enterprise, which in fact is not quite as "scientific" as one tends to suppose. Scientists are human, after all, not robots or computers; and the postmodernist philosophy of science does after all have a point. And yet, surprisingly perhaps, there is such a thing as "hard" science: a rigorous discipline capable of real discovery. Such science carries its own exactitude which no man can bend, and discloses objects or theorems which—like Mount Everest—are simply *there*. Hard science, it turns out, is wiser in certain ways than the scientists who engage in its pursuit, and wiser in a sense than the society sponsoring the enterprise. With a single decree it can abolish a long-standing expectation or disqualify some hallowed canon of scientific belief; it has in a very real sense a life of its own, independent of social conventions, philosophic bias, or ideological orientation. Apart from technical competence and occasional genius, it demands just one thing from the scientific community: integrity, namely, a certain respect for truth. And happily it can be said, to the honor of that community, that its members have by and large proved worthy of this trust.

It needs now to be pointed out that something momentous and utterly unex-

pected has taken place within the scientific domain in the course of the twentieth century: science has begun at last to discern its own inherent limitations, its own categorical bounds. Not that it has disavowed its exactitude: not at all! What science *has* disavowed is the scientistic notion that these exactitudes apply in principle to every domain, that *de jure* science encompasses all truth. It has moreover arrived at this recognition of its own incapacity, not by way of some supra-scientific intuition, but by strictly scientific means. What stands at issue are indeed theorems, discoveries as inexorable as the certitudes of mathematics or the fundamental laws of Nature. I propose now to cite a few major examples of such twentieth-century "limit theorems," spanning the gamut from mathematics and physics to biology and cognitive psychology; the cultural implications of these discoveries will occupy us later. For the moment it suffices to note that these remarkable findings are supportive of my "absolutist" claims in behalf of what I have termed hard science.

I will cite, as my first example, the Incompleteness Theorem established in 1931 by Kurt Gödel, a 25-year-old Austrian mathematician, which arguably constitutes the most important discovery of a logical kind in our century. Gödel's theorem disqualifies, at one stroke, the long-held expectations of leading authorities, the likes of David Hilbert, Gottlob Frege, and Bertrand Russell, who thought that a formal system inclusive of all mathematical truth could be found. What the young Austrian proved—once and for all!—is that a consistent formal system rich enough to accommodate ordinary arithmetic is necessarily incomplete; there simply *is* no formal structure encompassing all mathematical truth. It may be noted that Gödel's theorem has a certain postmodernist ring: by restricting the scope of a single theory, a single formal system, it seemingly opens the

door to a pluralist outlook tolerant of alternative positions. But even so, it does not compromise the absolute claims of truth: Gödel's result, after all, is a theorem of mathematical logic, validated by a rigorous argument, an incontrovertible proof. It does not in any way relativize mathematical truth; and one might add that Gödel was personally a Platonist, worlds removed from postmodernist skepticism.

My second example has to do with quantum theory, which can be viewed as entailing a limit theorem of a very different kind. What first comes to mind is the Heisenberg Uncertainty Principle, which limits the accuracy with which the values of conjugate dynamic variables of a quantum system (such as position and momentum) can be ascertained. What stands at issue, as one believes today, is not simply an incapacity on the part of the experimentalist, but the fact that dynamic variables of a quantum system do not, in general, *have* a definite value. An electron, for example, may not have a definite position or a specific momentum, and in any case, can never have both at once. It follows that Heisenberg Uncertainty restricts the applicability of pre-quantum physics to a macroscopic domain within which quantum effects can be neglected. And this is one way in which quantum theory can be seen as entailing a limit theorem.

There is however a second way, which proves to be deeper than the first. Let us view the universe from a non-bifurcationist perspective by affirming the objectivity of the perceived object: a red apple, for instance, which thus comes to be situated once again in the external world (as it was in pre-Cartesian times, and is in daily life). The red apple needs then to be distinguished from the "molecular apple," which is not red, and is in fact imperceptible. One thus arrives at the recognition that physics deals perforce with *two* ontological domains: the

physical, constituted by quantum particles and their aggregates, and the corporeal, containing perceptible objects (and hence the instruments of measurement). The two domains are of course intimately related—failing which physics would be impossible—and the relation, it turns out, is given by a function which, to every corporeal object *X*, assigns the corresponding physical object *SX*.³ This said, I can state my claim: Quantum theory, in its own way, distinguishes sharply between *X* and *SX*—even though physicists don't. It does so (in the standard formulation) through the phenomenon known as state vector collapse, which has mystified physicists—for the simple reason that a discernment between *X* and *SX* is incomprehensible from a bifurcationist point of view. State vector collapse has to do with the act of measurement, which terminates perforce on the corporeal plane: no wonder the phenomenon proves mystifying so long as one implicitly denies the existence of that plane. It turns out that the physical universe—the domain of physical science—does not, after all, coincide with the world at large. Even the simplest corporeal entity—a perceptible drop of water, for instance—proves to be *more* than a molecular aggregate; it exceeds the physical domain, not in a quantitative sense, to be sure, but categorically. Quantum theory, thus, entails an *ontological* limit theorem: it discerns the transcendence of the corporeal domain vis-à-vis the physical.

Another example, again of a very different kind, is afforded by William Dembski's recently promulgated theory of design.⁴ The problem at issue is this: One knows intuitively how to distinguish between structures resulting from a natural process and artifacts fashioned by an intelligent agent. A stone, for instance, that carries an engraving—the meaning of which may be unknown—is recognized as an artifact: one knows at a glance that

the object is not the product of "blind" forces. How can one tell? Does there exist a scientific criterion which enables us to detect "design"? What is required is a condition that cannot be met either by chance or necessity (the twin principles of scientific explanation). Such a theory must of course be statistical, which is to say that the impossibility at issue can be no more than a sufficiently high improbability. But that is enough: it suffices even in the most exact branches of physics. An event with a probability of 1 divided by 10 to the power 150 (which Dembski takes as a bound) is one which simply cannot occur: it is in effect impossible. This, then, is the problem Dembski has solved: he has formulated a notion of "specified complexity" which proves to be a criterion of the desired kind. The concept is mathematical, and I will only note that the power and genius of Dembski's theory lies in the notion of "specification" which formalizes an essential feature of design. Specified complexity, it turns out, constitutes a signature that permits us to infer intelligent agency; it is something, therefore, which cannot be duplicated by chance or necessity, and thus explained by scientific means. And yet the argument which proves this fact is entirely scientific: it is mathematical, in fact. We have here another instance of hard science discerning its own bounds: a *causal* limit theorem this time.

Design theory applies in particular to molecular biology: there is in fact an obvious connection. One needs but to observe that the nucleus of every cell contains a truly "astronomical" amount of specified complexity in the form of its DNA. One thus arrives at the remarkable conclusion that neither chance nor necessity, nor indeed some combination of the two, can account for the origin of these structures. Dembski's theorem, it turns out, has undercut the Darwinist claim. And I would add that this finding cannot be ignored for long by the scien-

tific community; I venture to predict that the Darwinist paradigm will be discarded: scientific integrity demands it.

My last example concerns the theory of visual perception proposed by the late James J. Gibson, a Cornell University psychology professor who devoted fifty years of his life to the study of how we perceive.⁵ By way of painstaking empirical investigations he became convinced that prevailing theories of visual perception are in fact untenable. The very notion that "the eye sends, the nerve transmits, and a mind or spirit receives" needs to be radically modified. In the final count, perception is to be conceived as an act, not of the body, nor of a mind, nor indeed of the two operating in tandem, but of the mind-body compound, conceived holistically as a single entity. What Gibson terms the perceptual system is not a sum of parts, nor can the perceptual act be dichotomized into stimulus and response. And as to the famous "perceptual image"—whether conceived as existing physiologically in the brain or psychologically in the mind—he concludes that the concept is spurious.⁶ What is perceived, Gibson finds, is not an image, but quite simply the external environment; in a word, the so-called ecological theory of perception is non-bifurcationist. "This distinction between primary and secondary qualities is quite unnecessary," writes Gibson, and is in fact "wholly rejected" in his approach.⁷ One is amazed to see how this sober scientist was able, by way of hard-headed inquiry based squarely upon empirical findings, to deconstruct the Cartesian edifice. He shows that the customary neurological and computer-theoretic approach to perception is flawed, and can at best yield results of a secondary nature—a recognition which can be seen as a decisive limit theorem pertaining to cognitive psychology.

Hard science, it turns out, is ultimately destructive of scientistic myth. The sci-

entific enterprise is inherently self-corrective: science as such is wiser than its scientistic practitioners. And wiser too, I would add, than the postmodernist philosophers who would impugn the enterprise. I am not denying for a moment that the new philosophy of science has contributed major insights: scientific facts, for example, may indeed be "theory laden"—and this is of course important; what troubles me is that I sense a certain lack in the postmodern outlook. One seems to have lost sight of something absolutely crucial, in the absence of which nothing at all can be affirmed. I will not presume to identify the missing element, except by way of pointing out that it is *not* missing in what I like to call the great philosophies—from Plato to Aquinas. For the rest, it may suffice to observe that every radical relativism falls under its own weight: its implied claim to have escaped from a relativity it declares to be universal. Meanwhile science is continuing to evolve, continuing to unfold its possibilities, and has now attained levels of discovery that shake the foundations of scientistic belief. Hard science, I contend, has disavowed the very premises that gave rise, first to modernist enlightenment, and two centuries later, by way of reaction, to postmodernist skepticism.

What then? If the postmodern, as well as the modern outlook, have now been discredited or found wanting, what viable option remains? As Aleksandr Solzhenitsyn declared before an incredulous audience in his Harvard commencement address: the only way left today is "upwards." But this way, surely, cannot be improvised, drawn out of thin air: it needs rather to be rediscovered, appropriated, *received*. The very concept of "verticality" is foreign to modernity and postmodernity alike. It reaches us from a distant past, a past we have been taught to despise as primitive and superstitious. We have forgotten, most of us, that tradi-

tion can be more than a custom, a convention, a mere vestige to be discarded at will. That a tradition can be living and life-giving, that it can even transmit an element of revelation—this we find hard to believe. We do not think highly of human culture in this Darwinist age. My point is simple: It is time to pay serious and respectful attention once more to the great traditions of mankind; instead of turning postmodernist, let us rejoin the greater human community.

The question before us is this: What is the role of science in the restoration of culture? If science thus far has indeed been largely responsible for the *decline* of Western culture, how then can it also play a role in a reversal of this trend? What is called for is a new cosmology. Culture and cosmology, I say, go hand in hand; and what is lacking in the modern West—in our culture and in our cosmology alike—is precisely the dimension of verticality. As our universe flattens, so does our conception of man, and so does our culture in all its aspects.⁸ There are compensations, of course, on horizontal planes; but these do not suffice: man was not born for that. He needs the vertical dimension to be fully human. There are those, to be sure, who accept this latter tenet, but would question that it has anything to do with cosmology. Verticality refers to an inward dimension, they would argue; it refers to something spiritual with which cosmology has no concern. But the matter is not quite so simple—nor quite so Cartesian, in fact. The inner and the external, it turns out, are profoundly related. I repeat: As our universe flattens, so does our culture. As Huston Smith points out: “A meaningful life is not finally possible in a meaningless world.”

We stand in need of a new cosmology: of a cosmos incomparably more vast than the universe of contemporary physics. I am not of course referring to spatial dimension: the physical universe encompasses light years enough. I speak rather

of things which cannot be measured or weighed, of things, in fact, which can only be spoken of in traditional terms: of an integral cosmos, namely, made up of distinct ontologic levels, which we may picture as so many horizontal planes or concentric spheres.⁹ I speak thus of a cosmic hierarchy, a universe with an added dimension: the dimension of verticality, which has to do with value and meaning, and ultimately, with first origins and last ends. It is the dimension that transforms the cosmos from a mere *thing* into a *bona fide* symbol: into a theophany, in fact; it is thus the dimension that nourishes the artist, the poet, and the mystic in us—the dimension, as I have said, which enables us to be fully human. It is also, however, the dimension that permits existence, permits being as such; for it can indeed be said, ontologically speaking, that nothing can exist simply on a horizontal plane. Nothing therefore can be understood, known, *experienced*—without entering into the vertical dimension. It is no small disadvantage, thus, that verticality has been banished: postmodernist nihilism, it turns out, is by no means unjustified. In fact, it is profound. Nietzsche was right: “We have abolished the true world. What has remained? The apparent one perhaps? Oh, no! With the true world we have also abolished the apparent one.” Prophetic words!

But meanwhile the question remains whether the true world can be reinstated. To be precise: Can hard science sanction a multi-level cosmology of the traditional kind? I submit that it can. What is more, I contend that science today not only permits a hierarchic cosmology, but also demands a world view of this kind; it is only that science itself—like Moses—is incapable of entering the land it has glimpsed from afar.

Let us consider the matter briefly. As I have indicated (and explained fully in my aforementioned book, *The Quantum Enigma*), quantum theory for its part dis-

tinguishes sharply between the physical plane and the corporeal. It outwits the physicist who believes in a bifurcationist reductionism. One sees in light of quantum theory that the domain of physics—the so-called physical universe—fits into what Arthur Lovejoy calls “the great chain of being” as a sub-corporeal plane. Turning to Dembski’s theory, one finds that the newly-discovered criterion of design permits us to distinguish scientifically between the animate and inanimate levels of corporeal being, in accordance with traditional cosmology. One arrives thus at the recognition of *three* cosmic levels: the physical, the inanimate corporeal, and the animate—a hierarchic ordering in which each higher level is ontologically irreducible to the antecedent. To this structure Gibson’s “ecological” theory of perception adds a further division by discerning perception to be an act *sui generis*, irreducible to physiology. It thus appears that in its own way the theory distinguishes between the plant and animal levels within the biosphere. One thus recovers the traditional tripartite division of the corporeal domain. To proceed further—beyond the corporeal—one would need to resort to parapsychology and other disciplines of a more or less “occult” kind, the scientific credentials of which might be questioned. There are however no scientific grounds for believing that the cosmos terminates at the corporeal level; and as I have argued elsewhere,¹⁰ it appears in fact that the quantum-mechanical phenomenon of nonlocality points to an ontologic degree beyond the spatio-temporal domain, and therefore indeed to a cosmic level beyond the corporeal.

One sees that even though hard science itself may not take us past the corporeal plane, it nonetheless endorses a hierarchic cosmology of the traditional kind. A restoration of cosmology, unthinkable a century ago, has now become theoretically feasible. Since the Enlightenment, Western man has lived intellectually in a flattened cosmos, a truncated universe of mere particles, persuaded that science had so decreed; and now one knows that we have been deceived. It was scientism, it turns out, that perpetrated the fraud; and this we know today on the authority of science itself. What, then, must be the role of science in the restoration of culture? What else could it be than to break the scientistic spell.

Nothing however can be accomplished without the recovery of authentic metaphysical wisdom. Philosophy must cease to be a sterile academic discipline, marginalized by science, and must reclaim its central position—which it can effect only by re-establishing its ancient alliance with theology. One needs to realize once again that human reason is not *per se* enlightening—is not itself “the true Light, which lighteth every man.” And so too one needs to realize that science as such is inherently incapable of self-interpretation.¹¹ I have argued that hard science today favors a hierarchic cosmology; but it needs to be added that only an illumined philosophy can in fact conceive of such a universe. It falls to philosophy, therefore, to bring into view what science discloses enigmatically. In the final count, only a restored philosophy can provide intellectual access to the true world—and in so doing, can enable the restoration of culture.

1. See *Cosmos and Transcendence* (Peru, Ill., 1984) [reviewed by John Caiazza, “A Platonic-Christian Critique of Modern Science,” in *Modern Age*, Vol. 29, No. 3 (Summer 1985), 274-276], where I have dealt at length with the major articles of scientistic

belief. 2. For instance, Michael Denton, *Evolution: A Theory in Crisis* (Bethesda, Md., 1986); Phillip E. Johnson, *Darwin on Trial* (Downers Grove, Ill., 1993); and Michael J. Behe, *Darwin’s Black Box* (New York, 1996). 3. What I have to say apropos of

quantum theory is documented in *The Quantum Enigma* (Peru, Ill., 1995), where I give a non-bifurcationist interpretation of physics. See also my article, "From Schrödinger's Cat to Thomistic Ontology," *The Thomist*, Vol. 63 (1999), 49-63. A helpful summary of my book, with commentary, has been given by William A. Wallace in "Thomism and the Quantum Enigma," *The Thomist*, Vol. 61 (1997), 455-467. 4. *The Design Inference* (Cambridge, 1998). See also William A. Dembski, *Intelligent Design: The Bridge Between Science & Theology* (Downers Grove, Ill., 1999). 5. See *The Ecological Approach to Visual Perception* (Hillsdale, N.J., 1986). 6. *Ibid.*, 60-61. 7. *Ibid.*, 31. 8. I have elucidated this contention in *Cosmos and Transcendence*, chapter 7. 9. An excellent account of hierarchic cosmology has been given by Seyyed Hossein Nasr in his 1981

Gifford Lectures. See *Knowledge and the Sacred* (New York, 1981), which also gives extensive references. 10. "Bell's Theorem and the Perennial Ontology," *Sophia*, Vol. 3 (1997), 19-38. 11. It is to be expected that science, in addition to its strictly scientific content, carries also a higher truth. In a paper entitled "Celestial Corporeality" (*Sophia*, Vol. 5 [1999], 49-83), I have shown that the facts of special relativity—of Lorentz invariance, to be exact—admit of a metaphysical, and indeed theological, interpretation. It appears that even the laws of physics have a symbolic aspect, even though the physicist—trained as he is to think in exclusively quantitative terms—may be the last to recognize the fact. Here too, perhaps, on the plane of mathematical physics, metaphysical truth is mirrored *en ainigmatt*, "as in a riddle." (1 Cor. 13:12)

A Cold King

As Winter wrought a bitter misery
 Weak Autumn bowed to his stern, icy will.
 Pines' frozen branches cracked defenselessly.
 Bears hibernated as white forests chilled.
 Thus Winter ruled, a tyrant, a cold king,
 Subjecting earth to his frigidity.
 No one escaped the whistling North Wind's sting
 Or silent snows. Throughout his sovereignty
 All those enduring Winter yearned for Spring,
 For pastures' emerald grass, meadowlarks' sounds,
 For butterflies and flowers' blossomings,
 'Til warming temperatures thawed the icebound
 And once again a thrush began to sing
 As Spring deposed the ruler and was crowned.

—Mary E. Slayton